IN THE CLAIMS

Pursuant to 37 CFR §121(c), the claim listing, including the text of the claims, will serve to replace all prior versions of the claims, in the application.

Please cancel claims 2 and 9, and amend claims 1, 3-5, 7, 8, 10-12, 14, 15 and 20 as follows:

1   1. (Currently Amended) An access point device, comprising:

2   a wireless transmission and reception unit for transmitting <u>information of the</u>

3   <u>access point which the wireless transmission and reception unit locates at</u> or receiving

4   information of peripheral access point devices wirelessly;

5   a control unit for searching channel numbers used by the peripheral access point

6   devices from the information from the wireless transmission and reception unit, deciding

7   an optimal channel number from the channel numbers except for the used channel

8   numbers, and setting the optimal channel number as a channel number; [[and]]

9   <u>the control unit, when searching channel numbers used by the peripheral access</u>

10   <u>point devices, transmitting a probe request frame to the peripheral access point devices,</u>

11   <u>receiving probe response frames from the peripheral access point devices for a</u>

12   <u>predetermined time, extracting the channel numbers from the received probe response</u>

13   <u>frames, and stores the extracted channel numbers; and</u>

14   an operator terminal for managing and controlling the control unit.

1   Claim 2 (Canceled)

1   3. (Currently Amended) The device according to claim [[2]] <u>1</u>, wherein the

2   control unit transmits the probe request frame after setting basic service set identifiers

3   field of the probe request frame as broadcast basic service set identifiers .

1   4.   (Currently Amended)   The device according to claim [[2]] 1, wherein the

2   control unit extracts the channel numbers from direct sequence parameter sets of frame

3   bodies of the probe response frames.

1   5.   (Currently Amended)   ~~The device according to claim 1, wherein, when~~

2   ~~searching the channel numbers, the control unit receives beacon frames from the~~

3   ~~peripheral access point devices for a predetermined time, extracts the channel numbers~~

4   ~~from the beacon frames, and stores the extracted channel numbers.~~

5   An access point device, comprising:

6   a wireless transmission and reception unit transmitting information of the access

7   point which the wireless transmission and reception unit locates at or receiving

8   information of peripheral access point devices wirelessly;

9   a control unit searching channel numbers used by the peripheral access point

10   devices from the information from the wireless transmission and reception unit, deciding

11   an optimal channel number from the channel numbers except for the used channel

12   numbers, and setting the optimal channel number as a channel number;

13   the control unit, when searching channel numbers used by the peripheral access

14   point devices, receiving beacon frames from the peripheral access point devices for a

15   predetermined time, extracting the channel numbers from the beacon frames, and storing

16   the extracted channel numbers; and

17   an operator terminal managing and controlling the control unit.

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6. (Original) The device according to claim 5, wherein the control unit extracts the channel numbers from direct sequence parameter sets of frame bodies of the beacon frames.

7. (Currently Amended) ~~The device according to claim 1, wherein, when determining the optimal channel number, the control unit selects one of the channel numbers except for the used channel numbers, decides whether the channel numbers obtained by subtracting '1' and '2' from the selected channel number and the channel numbers obtained by adding '1' and '2' to the selected channel number have been used, and sets the selected channel number as the optimal channel number when the channel numbers have not been used.~~

An access point device, comprising:

a wireless transmission and reception unit transmitting information of the access point which the wireless transmission and reception unit locates at or receiving information of peripheral access point devices wirelessly;

a control unit searching channel numbers used by the peripheral access point devices from the information from the wireless transmission and reception unit, deciding an optimal channel number from the channel numbers except for the used channel numbers, and setting the optimal channel number as a channel number;

the control unit, when searching channel numbers used by the peripheral access point devices, receiving beacon frames from the peripheral access point devices for a predetermined time, extracting the channel numbers from the beacon frames, and storing the extracted channel numbers;

20   the control unit, when determining the optimal channel number, selecting one of

21   the channel numbers except for the used channel numbers, deciding whether the channel

22   numbers obtained by subtracting '1' and '2' from the selected channel number and the

23   channel numbers obtained by adding '1' and '2' to the selected channel number have been

24   used, and setting the selected channel number as the optimal channel number when the

25   channel numbers have not been used; and

26   an operator terminal managing and controlling the control unit.

1   8. (Currently Amended) A method for setting a channel of an access point device,

2   comprising:

3   a peripheral search step for receiving information from peripheral access point

4   devices, and searching channel numbers used by the peripheral access point devices;

5   the peripheral search step comprising the steps of a probe request frame

6   transmission step transmitting a probe request frame to the peripheral access point

7   devices, a probe response frame reception step receiving probe response frames from the

8   peripheral access point devices for a predetermined time, and a channel number

9   extraction step extracting channel numbers from the received probe response frames and

10   storing the extracted channel numbers;

11   an optimal channel number decision step for selecting one of the channel numbers

12   except for the used channel numbers, and deciding whether the selected channel number

13   is an optimal channel number; and

14   a channel setting step for setting the selected channel number as a channel number

15   when the selected channel number is the optimal channel number.

1   Claim 9 (Canceled)

1   10.   (Currently Amended)   The method according to claim [[9]] 8, wherein the

2   probe request frame transmission step transmits the probe request frame after setting

3   basic service set identifiers field of the probe request frame as broadcast basic service set

4   identifiers .

1   11.   (Currently Amended)   The method according to claim [[9]] 8, wherein the

2   channel number extraction step extracts the channel numbers from direct sequence

3   parameter sets of frame bodies of the probe response frames.

1   12.   (Currently Amended)   The method according to claim 8, wherein the

2   peripheral search step comprises:

3   a beacon frame reception step for receiving beacon frames transmitted from the

4   peripheral access point devices for a predetermined time; and

5   a channel number extraction step for extracting the channel numbers from the

6   beacon frames, and storing the extracted channel numbers A method for setting a channel

7   of an access point device, comprising:

8   a peripheral search step receiving information from peripheral access point

9   devices, and searching channel numbers used by the peripheral access point devices;

10   the peripheral search step comprising the steps of a beacon frame reception step

11   receiving beacon frames transmitted from the peripheral access point devices for a

12   predetermined time, and a channel number extraction step extracting the channel numbers

13   from the beacon frames and storing the extracted channel numbers;

14   an optimal channel number decision step selecting one of the channel numbers

15   except for the used channel numbers, and deciding whether the selected channel number

16   is an optimal channel number; and

17   a channel setting step setting the selected channel number as a channel number

18   when the selected channel number is the optimal channel number.

1   13.   (Original)   The method according to claim 12, wherein the beacon frame

2   reception step extracts the channel numbers from direct sequence parameter sets of frame

3   bodies of the beacon frames.

1   14.   (Currently Amended)   ~~The method according to claim 8, wherein the optimal~~

2   ~~channel number decision step comprises the steps of:~~

3   ~~selecting one of the channel numbers except for the used channel numbers; and~~

4   ~~deciding whether the channel numbers obtained by subtracting 1 and 2 from the~~

5   ~~selected channel number and the channel numbers obtained by adding 1 and 2 to the~~

6   ~~selected channel number have been used~~ A method for setting a channel of an access

7   point device, comprising:

8   a peripheral search step receiving information from peripheral access point

9   devices, and searching channel numbers used by the peripheral access point devices;

10   the peripheral search step comprising the steps of a probe request frame

11   transmission step transmitting a probe request frame to the peripheral access point

12   devices, a probe response frame reception step receiving probe response frames from the

13   peripheral access point devices for a predetermined time, and a channel number

14   extraction step extracting channel numbers from the received probe response frames and

15 storing the extracted channel numbers;

16 an optimal channel number decision step selecting one of the channel numbers

17 except for the used channel numbers, and deciding whether the selected channel number

18 is an optimal channel number;

19 the optimal channel number decision step comprising selecting one of the channel

20 numbers except for the used channel numbers, and deciding whether the channel numbers

21 obtained by subtracting 1 and 2 from the selected channel number and the channel

22 numbers obtained by adding 1 and 2 to the selected channel number have been used; and

23 a channel setting step setting the selected channel number as a channel number

24 when the selected channel number is the optimal channel number.

1 15. (Currently Amended) An apparatus, comprising:

2 a first unit transmitting information of the access point which the first unit locates

3 at or receiving information of peripheral access point devices wirelessly;

4 a second unit searching channel numbers used by the peripheral access point

5 devices from the information from the first unit, deciding an optimal channel number

6 from the channel numbers except for the used channel numbers, and setting the optimal

7 channel number as a channel number, when searching the channel numbers, the second

8 unit ~~transmits~~ transmitting a probe request frame to the peripheral access point devices,

9 ~~receives~~ receiving probe response frames from the peripheral access point devices for a

10 predetermined time, ~~extracts~~ extracting the channel numbers from the received probe

11 response frames; and

12 a third unit managing and controlling the second unit.

1   16. (Original) The apparatus according to claim 15, wherein the second unit

2   stores the extracted channel numbers.

1   17. (Original) The apparatus according to claim 16, wherein the second unit

2   transmits the probe request frame after setting basic service set identifiers field of the

3   probe request frame as broadcast basic service set identifiers .

1   18. (Original) The apparatus according to claim 17, wherein the second unit

2   extracts the channel numbers from direct sequence parameter sets of frame bodies of the

3   probe response frames.

1   19. (Original) The apparatus according to claim 18, wherein, when determining

2   the optimal channel number, the second unit selects one of the channel numbers except

3   for the used channel numbers, decides whether the channel numbers obtained by

4   subtracting a first number and a second number from the selected channel number and the

5   channel numbers obtained by adding the first number and the second number to the

6   selected channel number that have been used, and sets the selected channel number as the

7   optimal channel number when the channel numbers have not been used.

1   20. (Currently Amended) An apparatus, comprising:

2   a first unit transmitting information of the access point which the first unit locates

3   at or receiving information of peripheral access point devices wirelessly;

4   a second unit searching channel numbers used by the peripheral access point

5   devices received from the first unit, the second unit receiving beacon frames from the

6   peripheral access point devices for a predetermined time and extracting the channel

7   numbers from the beacon frames and storing the extracted channel numbers when

8   searching the channel numbers when searching the channel numbers;

9   [[a]] the second unit ~~searching channel numbers used by the peripheral access~~

10 ~~point devices from the information from the first unit,~~ deciding an optimal channel

11 number from the channel numbers except for the used channel numbers, and setting the

12 optimal channel number as a channel number~~, when searching the channel numbers, the~~

13 ~~second unit receives beacon frames from the peripheral access point devices for a~~

14 ~~predetermined time, extracts the channel numbers from the beacon frames, and stores the~~

15 ~~extracted channel numbers~~; and

16 a third unit managing and controlling the second unit.

1   21. (Original) The apparatus according to claim 20, wherein the second unit

2   extracts the channel numbers from direct sequence parameter sets of frame bodies of the

3   beacon frames.

1   22. (Original) The apparatus according to claim 21, wherein, when determining

2   the optimal channel number, the second unit selects one of the channel numbers except

3   for the used channel numbers, decides whether the channel numbers obtained by

4   subtracting a first number and a second number from the selected channel number and the

5   channel numbers obtained by adding the first number and the second number to the

6   selected channel number have that been used, and sets the selected channel number as the

7   optimal channel number when the channel numbers have not been used.

23.　(Original)　A computer-readable medium having computer-executable instructions for performing a method, comprising:

receiving information from peripheral access point devices, and searching channel numbers used by the peripheral access point devices;

selecting one of the channel numbers except for the used channel numbers, and deciding whether the selected channel number is an optimal channel number; and

setting the selected channel number as a channel number when the selected channel number is the optimal channel number.

24.　(Original)　The computer-readable medium having computer-executable instructions for performing a method of claim 23, wherein the receiving of information from peripheral access point devices, and searching channel numbers used by the peripheral access point devices further comprises:

transmitting a probe request frame to the peripheral access point devices, transmitting the probe request frame after setting basic service set identifiers field of the probe request frame as broadcast basic service set identifiers;

receiving probe response frames from the peripheral access point devices for a predetermined time; and

extracting channel numbers from the received probe response frames, and storing the extracted channel numbers, extracting the channel numbers from direct sequence parameter sets of frame bodies of the probe response frames.

25.　(Original)　The computer-readable medium having computer-executable instructions for performing a method of claim 23, wherein the receiving of information

3   from peripheral access point devices, and searching channel numbers used by the

4   peripheral access point devices further comprises:

5   receiving beacon frames transmitted from the peripheral access point devices for a

6   predetermined time, extracting the channel numbers from direct sequence parameter sets

7   of frame bodies of the beacon frames; and

8   a channel number extraction step for extracting the channel numbers from the

9   beacon frames, and storing the extracted channel numbers.

1   26.   (Original)   The computer-readable medium having computer-executable

2   instructions for performing a method of claim 23, wherein the selecting of one of the

3   channel numbers except for the used channel numbers, and deciding whether the selected

4   channel number is the optimal channel number further comprises:

5   selecting one of the channel numbers except for the used channel numbers; and

6   deciding whether the channel numbers obtained by subtracting 1 and 2 from the

7   selected channel number and the channel numbers obtained by adding 1 and 2 to the

8   selected channel number have been used.